

Brent Kirkham  
Huntington Powder Coating, Inc.  
Box 590  
Huntington, Indiana 46750

Re: Registered Construction and Operation Status,  
**069-14209-00063**

Dear Mr. Kirkham:

The application from Huntington Powder Coating, Inc., received on March 28, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following powder coating application source, to be located at 1675 Riverfork Drive East, Huntington, Indiana 46750, Indiana, is classified as registered:

- (a) One (1) automatic powder spray booth, known as SB #4, installed in 2000, equipped with dry filters for particulate overspray control, capacity: 41.25 pounds of powder per hour.
- (b) One (1) manual powder spray booth, known as SB #3, installed in 2000, equipped with dry filters for particulate overspray control, capacity: 3.0 pounds of powder per hour.
- (c) One (1) single chamber incinerator, known as burn off oven, installed in 2000, exhausted to Stack #7, with two (2) burners rated at 0.8 million British thermal units per hour, each, capacity: 0.1171 pounds per hour.
- (d) One (1) bake oven, installed in 2000, consisting of two (2) burners known as Bake #1, rated at 0.8 million British thermal units per hour and Bake #2, rated at 1.6 million British thermal units per hour.
- (e) One (1) washer, known as Washer, installed in 2000, exhausted to Stack #1, rated at 2.5 million British thermal units per hour.
- (f) One (1) dry off oven, known as Dry Off Oven, installed in 2000, exhausted to Stack #2, rated at 0.8 million British thermal units per hour.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following:
  - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60,

Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

2. Any change or modification which may increase the potential to emit a combination of HAPs, VOC, SO<sub>2</sub>, NO<sub>x</sub>, CO, PM or PM<sub>10</sub> to twenty five (25) tons per year or a single HAP to ten (10) tons per year from this source shall require approval from IDEM, OAQ prior to making the change.

3. 326 IAC 4-2 (Incinerators)

The one (1) single chamber incinerator, known as burn off oven, which emits regulated pollutants shall:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner unless burning wood products;
- (c) Comply with 326 IAC 5-1 and 326 IAC 2;
- (d) Be maintained properly as specified by the manufacturer and approved by the commissioner;
- (e) Be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;
- (h) Not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air; and
- (i) Not create a nuisance or a fire hazard.

If any of the above result, the burning shall be terminated immediately.

4. Pursuant to 326 IAC 6-3-2 (Process Operations) the particulate matter (PM) from SB #3 and SB #4 shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and  
P = process weight rate in tons per hour

The dry filters shall be in operation at all times the SB #3 and SB #4 is in operation, in order

to comply with this limit.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3)). The annual notice shall be submitted to:

**Compliance Data Section  
Office of Air Quality  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

PMC/MES

cc: File - Huntington County  
Huntington County Health Department  
Air Compliance - Ryan Hillman  
Permit Tracking - Janet Mobley  
Air Programs Section- Michele Boner  
Office of Enforcement

## Registration

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

<b>Company Name:</b>	<b>Huntington Powder Coating, Inc.</b>
<b>Address:</b>	<b>1675 Riverfork Drive East</b>
<b>City:</b>	<b>Huntington, Indiana 46750</b>
<b>Authorized individual:</b>	<b>Brent Kirkham</b>
<b>Phone #:</b>	<b>219 - 358 - 2700</b>
<b>Registration #: 069-14209-00063</b>	

I hereby certify that Huntington Powder Coating, Inc. is still in operation and is in compliance with the requirements of Registration **069-14209-00063**.

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Registration**

#### **Source Background and Description**

<b>Source Name:</b>	<b>Huntington Powder Coating, Inc.</b>
<b>Source Location:</b>	<b>1675 Riverfork Drive East, Huntington Indiana 46750</b>
<b>County:</b>	<b>Huntington</b>
<b>SIC Code:</b>	<b>3479</b>
<b>Operation Permit No.:</b>	<b>Registration 069-14209-00063</b>
<b>Permit Reviewer:</b>	<b>Paula M. Cignitore</b>

The Office of Air Quality (OAQ) has reviewed an application from Huntington Powder Coating, Inc. relating to the construction and operation of a powder coating application source.

#### **Permitted Emission Units and Pollution Control Equipment**

There are no permitted emission units at this source.

#### **Unpermitted Emission Units and Pollution Control Equipment**

The source consists of the following unpermitted facilities/units:

- (a) One (1) automatic powder spray booth, known as SB #4, installed in 2000, equipped with dry filters for particulate overspray control, capacity: 41.25 pounds of powder per hour.
- (b) One (1) manual powder spray booth, known as SB #3, installed in 2000, equipped with dry filters for particulate overspray control, capacity: 3.0 pounds of powder per hour.
- (c) One (1) single chamber incinerator, known as burn off oven, installed in 2000, exhausted to Stack #7, with two (2) burners rated at 0.8 million British thermal units per hour, each, capacity: 0.1171 pounds per hour.
- (d) One (1) bake oven, installed in 2000, consisting of two (2) burners known as Bake #1, rated at 0.8 million British thermal units per hour and Bake #2, rated at 1.6 million British thermal units per hour.
- (e) One (1) washer, known as Washer, installed in 2000, exhausted to Stack #1, rated at 2.5 million British thermal units per hour.
- (f) One (1) dry off oven, known as Dry Off Oven, installed in 2000, exhausted to Stack #2, rated at 0.8 million British thermal units per hour.

Huntington Powder Coating, Inc.  
Huntingtin, Indiana  
Permit Reviewer: PMC/MES

Page 2 of 8  
Registration 069-14209-00063

### New Emission Units and Pollution Control Equipment

There are no new facilities/units requiring approval during this review.

### Existing Approvals

There are no existing approvals for this source.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
#1	Washer	13.6	2.24	na	exhausts to bake oven
#2	Dry Off Oven	13.6	1.4	767	90
#5	wicks heat from front of paint oven	13.6	1.5	2,031	220
#6	Bake Oven	13.6	1.25	775	365
#7	Burn Off Oven	26.0	1.17	588	450

### Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

### Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on March 28, 2001, with additional information received on May 3, 2001.

### Emission Calculations

See pages 1 through 4 of 4 of Appendix A of this document for detailed emissions calculations.

### Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any

physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

<b>Pollutant</b>	<b>Potential To Emit (tons/year)</b>
PM	6.95
PM <sub>10</sub>	7.09
SO <sub>2</sub>	0.016
VOC	0.141
CO	2.105
NO <sub>x</sub>	2.50

<b>HAPs</b>	<b>Potential To Emit (tons/year)</b>
Benzene	0.00005
Dichlorobenzene	0.00003
Formaldehyde	0.002
Hexane	0.045
Toluene	0.00008
Lead	0.00001
Cadmium	0.00003
Chromium	0.00004
Manganese	0.000009
Nickel	0.00005
TOTAL	0.047

The potential to emit (as defined in 326 IAC 2-5.1-2) of PM and PM<sub>10</sub> are less than twenty-five (25) tons per year and greater than five (5) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2.

#### **Actual Emissions**

No previous emission data has been received from the source.

#### **Limited Potential to Emit**

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.



	<b>Limited Potential to Emit</b> (tons/year)						
Process/facility	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
SB #3 and SB #4	3.68	3.68	0.00	0.00	0.00	0.00	0.00
Combustion	0.047	0.190	0.015	0.137	2.10	2.50	0.047
Burn Off Oven	0.004	0.004	0.001	0.004	0.005	0.001	0.00
Total Emissions	3.73	3.87	0.016	0.141	2.11	2.50	0.047

### County Attainment Status

The source is located in Huntington County.

Pollutant	Status
PM <sub>10</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Huntington County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR Part 52.21.
- (b) Huntington County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions

Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR Part 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	3.73
PM <sub>10</sub>	3.87
SO <sub>2</sub>	0.016
VOC	0.141
CO	2.11
NO <sub>x</sub>	2.50
Single HAP	0.045
Combination HAPs	0.047

This new source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR Part 52.21, the PSD requirements do not apply.

### Part 70 Permit Determination

#### 326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPs is less than twenty-five (25) tons per year.

This is the first air approval issued to this source.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source. The single chamber incinerator, known as burn off oven, is not subject to NSPS Subpart E (40 CFR Part 60.50) and 326 IAC 12, because the powder coating being combusted does not meet the definition of solid waste as defined by 40 CFR Part 60.51 (b).
- (b) The single chamber incinerator, known as burn off oven is not subject to the requirements of National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) Subpart EEE because the burn off oven is an industrial furnace which is exempt

for this rule.

### **State Rule Applicability - Entire Source**

#### **326 IAC 2-6 (Emission Reporting)**

This source is located in Huntington County and the potential to emit PM is less than one hundred (100) tons per year, therefore, 326 IAC 2-6 does not apply.

#### **326 IAC 5-1 (Opacity)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### **State Rule Applicability - Individual Facilities**

#### **326 IAC 4-2 (Incinerators)**

The one (1) single chamber incinerator, known as burn off oven, which emits regulated pollutants shall:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner unless burning wood products;
- (c) Comply with 326 IAC 5-1 and 326 IAC 2;
- (d) Be maintained properly as specified by the manufacturer and approved by the commissioner;
- (e) Be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;
- (h) Not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air; and
- (i) Not create a nuisance or a fire hazard.

If any of the above result, the burning shall be terminated immediately.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from SB #3 and SB#4 shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The dry filters shall be in operation at all times the SB #3 and SB#4 is in operation, in order to comply with this limit.

326 IAC 8

There are no Article 8 rules that apply to this source or any of the facilities.

**Conclusion**

The operation of this powder coating application source shall be subject to the conditions of the attached proposed Registration 069-14209-00063.

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Powder Coating Operations**

Page 1 of 4 TSD App A

**Company Name: Huntington Powder Coating, Inc.  
Address City IN Zip: 1675 Riverfork Drive East Huntington, Indiana 46750  
Registration: 069-14209  
Plt ID: 069-00063  
Reviewer: Paula M Cognitore  
Date: March 28, 2001**

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency
<b>SB #4 Powder Paint Booth</b>																
Ansi 61 Grey Polyester Powder Coating	13.26	0.00%	0.0%	0.0%	0.0%	100.00%	3.11090	1.000	0.00	0.00	0.00	0.00	0.00	3.61	0.00	98%
<b>SB #3 Manual Spray Booth</b>																
Ansi 61 Grey Polyester Powder Coating	13.26	0.00%	0.0%	0.0%	0.0%	100.00%	0.22620	1.000	0.00	0.00	0.00	0.00	0.00	3.28	0.00	75%
<b>State Potential Emissions</b>									PM	Control Efficiency	98.00%					
<b>Add worst case coating to all solvents</b>									<b>Uncontrolled</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>6.90</b>		
									<b>Controlled*</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.68</b>		

SB#4 is a totally enclosed manual powder spray booth which collects the powder coating using dry filters and then recycles and reuses the powder collected within SB#4

**METHODOLOGY**

\* Control Efficiency is only for #3 Manual Spray Booth

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lbs/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

Page 2 of 4 TSD App A

**Company Name:** Huntington Powder Coating, Inc.  
**Address City IN Zip:** 1675 Riverfork Drive East Huntington, Indiana 46750  
**Registration:** 069-14209  
**Plt ID:** 069-00063  
**Reviewer:** Paula M Cognitore  
**Date:** March 28, 2001

One (1) Bake #1 Burner @ 0.8 mmBtu/hr  
 One (1) Bake #2 Burner @ 1.6 mmBtu/hr  
 One (1) Dry Off Burner @ 0.8 mmBtu/hr  
 One (1) Washer @ 2.5 mmBtu/hr

Heat Input Capacity	Potential Throughput
MMBtu/hr	MMCF/yr

5.700	49.93
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Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	SO2 0.6	NOx 100.0	VOC 5.5	CO 84.0
				**see below		
Potential Emission in tons/yr	0.047	0.190	0.015	2.50	0.137	2.10

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 3 for HAPs emissions calculations.

**Appendix A: Emissions Calculations****Page 3 of 4 TSD App A****Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****HAPs Emissions**

**Company Name:** Huntington Powder Coating, Inc.  
**Address City IN Zip:** 1675 Riverfork Drive East Huntington, Indiana 46750  
**Registration:** 069-14209  
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**Reviewer:** Paula M Cognitore  
**Date:** March 28, 2001

**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	5.243E-05	2.996E-05	1.872E-03	4.494E-02	8.488E-05

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	Total HAPs
Potential Emission in tons/yr	1.248E-05	2.746E-05	3.495E-05	9.487E-06	5.243E-05	0.047

Methodology is the same as page 2.

The five highest organic and metal HAPs emission factors are provided above.  
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

## Appendix A: Emission Calculations Incinerator

Page 4 of 4 TSD App A

**Company Name:** Huntington Powder Coating, Inc.  
**Address City IN Zip:** 1675 Riverfork Drive East Huntington, Indiana 46750  
**Registration:** 069-14209  
**Plt ID:** 069-00063  
**Reviewer:** Paula M Cognitore  
**Date:** March 28, 2001

THROUGHPUT lbs/hr 0.1171
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THROUGHPUT  
 tons/yr  
 0.512898

	POLLUTANT				
	PM 15.0	SO2 2.5	CO 20.0	VOC 15.0	NOX 2.0
Emission Factor in lb/ton					
Potential Emissions in ton/yr	0.004	0.001	0.005	0.004	0.001

### Methodology

Emission factors are from AP 42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse combustors, single chamber  
 Throughput (lb/hr) \* 8760 hr/yr \* ton/2000 lb = throughput (ton/yr)